

QUICKTRONIC® POWERSENSE® T5 Dimming UNV Systems



**Fluorescent Controllable
Lighting Systems**

High Efficiency Series

Lamp / Ballast Guide

28W T5 - PENTRON® lamps

1-lamp QHE1x28T5/UNV DIM

2-lamp QHE2x28T5/UNV DIM

Primary Lamp Type

FP28

Also operates:

FP35, FP21, FP14

Key System Features

- Industry's first ballast that combines dimming inputs from 0-10V and/or two-wire AC dimming providing maximum flexibility
- POWERSENSE compatibility with low voltage and power line fluorescent dimmers
- **High Efficiency**
- Lamp Detection Technology
- Universal voltage (120-277V)
- 100-1% Dimming Range
- PROStart® programmed rapid start
- Anti-flash circuitry – turns on in dimmed mode
- Lightweight and low profile
- Operates at >42 kHz
- QUICKSENSE ballast technology (end-of-lamp-life sensing)
- QUICK 60+ ballast and lamp warranty
- RoHS compliant
- Lead-free solder and manufacturing process



Application Information

SYLVANIA QUICKTRONIC POWERSENSE ballasts

are ideally suited for:

- Occupancy sensors
- Daylight harvesting
- Energy management
- Load shedding
- Commercial
- Retail
- Hospitality
- Institutional
- Schools
- New construction
- Retrofit

SYLVANIA QUICKTRONIC High Efficiency POWERSENSE T5 electronic ballasts offer several advantages:

- **Wide Dimming Range:** operate linear fluorescent T5 PENTRON lamps over a 100-1% dimming range and provide true versatility in controls selection.
- **Industry's Most Adaptable Dimming Ballast:** ballasts feature micro-controller technology for compatibility with:
 - low voltage controls
 - power line fluorescent dimmers
 - any line voltage from 120V to 277V
- **Unmatched Performance with Patented Lamp Detection Technology:**
 - Eliminates variations in brightness from lamp-to-lamp
 - Provides uniform lighting throughout the dimming range
 - Eases installation and troubleshooting by recognizing failed lamps, faulty wiring or loose connections and shutting down.

System Information

QUICKTRONIC POWERSENSE ballasts operate from standard low voltage (0-10VDC) fluorescent controllers or compatible 2-wire power line fluorescent dimmers, making them ideal for individual office lighting or automated building applications, both in new construction and retrofit projects.

For the individual office or conference room, installation can be streamlined by using a 2-wire power line dimmer; eliminating the need for additional control wires.

For more advanced systems, such as daylight harvesting or building automation applications, standard low voltage devices (0-10VDC, Class 1 or 2) are used to control the lighting system. In this daylight harvesting example, each lighting fixture (or fixture row) is controlled by its own photosensor; regulating the light output to compensate for changes in natural daylight. Depending upon the specific application, energy savings of up to 60% compared to fixed output electronic systems can be realized.

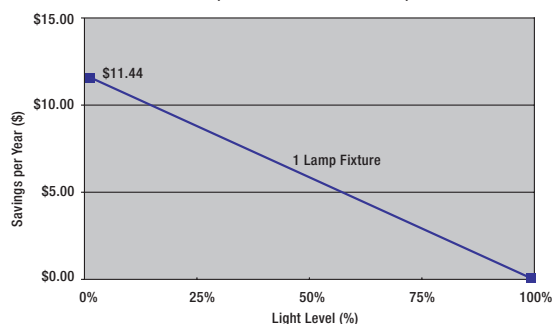


When the problem is corrected, the system restarts automatically.

RoHS Compliant: QUICKTRONIC POWERSENSE T5 ballasts are RoHS compliant and feature lead-free solder and manufacturing process.

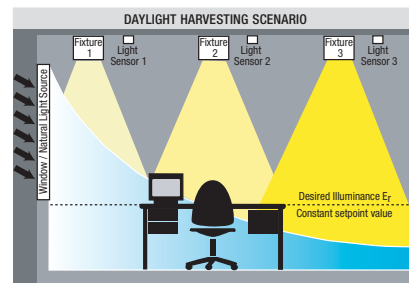
QUICK 60+® Warranty: Setting the standard for quality, QUICKTRONIC POWERSENSE T5 ballasts are covered by a QUICK 60+® warranty, the first comprehensive system warranty in the industry.

SAVINGS PER YEAR* vs LIGHT LEVEL
(QHE T5 POWERSENSE Ballast)



* FP28 lamps with QUICKTRONIC QHE T5 POWERSENSE ballast
* Based on 4000 hrs/yr, \$0.11/kWh, and 120V operation
* Savings per Year (@Light Level) = Cost of operation (100% Light Level) - Cost of operation (@Light Level)

All QUICKTRONIC POWERSENSE ballasts include a line voltage protection circuit, which protects the ballast in the event that line voltage is inadvertently applied to the low voltage control inputs.



SPECIFICATION DATA

Catalog #	Date	Type
Project	Prepared by	
Comments		

High Efficiency Electronic T5 Fluorescent Controllable Lighting Systems



Item Number	OSRAM SYLVANIA Description	Input Current (AMPS)	Lamp Type	Rated ¹ Lumens (lm)	No. of Lamps	Ballast Factor (BF)	System Lumens	Input ² Power (W) 120V 277V	System Efficacy (lm/W)	BEF ³
50725	QHE1x28T5/UNV DIM-TC	0.27/0.12	FP28T5	2900	1	1.00 0.01	2900 29	32 31 6 6	94	3.23
		0.34/0.14	FP35T5	3650	1	1.00 0.01	3650 37	41 40 6 6	91	2.50
		0.21/0.09	FP21T5	2100	1	1.00 0.01	2100 21	25 25 6 6	84	4.00
		0.14/0.06	FP14T5	1350	1	1.00 0.01	1350 14	17 17 5 5	79	5.88
50726	QHE2x28T5/UNV DIM-TCL*	0.53/0.23	FP28	2900	2	1.00 0.01	5800 58	64 62 10	91/93	1.61
		0.67/0.29	FP35	3650	2	1.00 0.01	7300 73	81 79 10	90/92	1.27
		0.40/0.18	FP21	2100	2	1.00 0.01	4200 42	49 9	86	2.04
		0.29/0.13	FP14	1350	2	1.00 0.01	2700 27	34 8	79	2.94

¹ At 35°C lamp ambient temperature.

² System Efficacy calculation based on lowest input power.

³ Ballast Efficiency Factor (BEF) shown = (Ballast Factor x 100) divided by Input Power (note: calculation based on lowest wattage value)

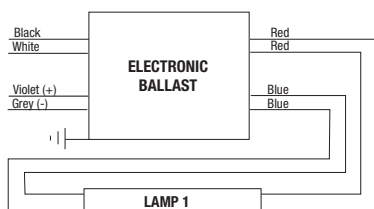
⊗ Preliminary specifications. Please contact OSRAM SYLVANIA for additional information.

*Please note, item number 50726 was formerly QTP 2x28T5/UNV DIM-TCL

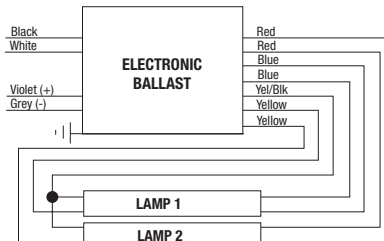
Installation Notes

Output Wiring: Lamp wiring for dimming ballasts can differ significantly from non-dimming ballasts and from other manufacturers dimming ballasts. Take care to connect lamp lead wires as shown on the applicable ballast diagram. **Lamp Seasoning:** For optimal performance, fluorescent lamps may require seasoning for up to 12 hours prior to low temperature starting & low level dimming. Refer to NEMA LSD 23-2002 Lighting Systems Division: Recommended Practice - Lamp Seasoning for Fluorescent Dimming Systems

1 lamp

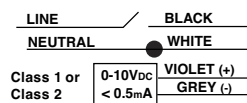


2 lamp

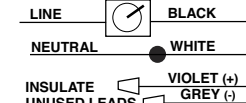


Input & Control Wiring Options:

LOW-VOLTAGE CONTROL



POWERLINE CONTROL



Refer to pages 118-119 for controls & wiring information

Item Number — 50726 QHE 2 x 28T5 / UNV DIM-TCL — System Type - DIMMING/Case Size
 QUICKTRONIC High Efficiency — Line Voltage (120-277V)
 Number of Lamps (2) — Primary Lamp Wattage

T5 POWERSENSE®

High Efficiency

Performance Guide

Data shown based upon SYLVANIA PENTRON® lamp(s). QUICKTRONIC® POWERSENSE ballasts are also compatible with other lamp manufacturers equivalent lamp types that meet ANSI specifications.

Specifications

Data based on FP28

Starting Method: Programmed Rapid Start
Circuit Type: Series

Lamp Frequency: >42 kHz

Lamp CCF: Less than 1.7

Starting Temp: 50°F/10°C minimum³

Input Voltage: 120-277V, ±10%

Input Frequency: 50/60 Hz

THD: <10% @ Full Output

Power Factor: >98% @ Full Output

UL Listed Class P, Type 1 Outdoor

CSA or C/UL Certified

70°C Max Case Temperature

FCC 47CFR Part 18 Non-Consumer

Class A Sound Rating

RoHS Compliant⁴

ANSI C62.41 Cat. A Transient Protection

No Remote or Tandem Wiring

4 Complies with European Union Restriction of Hazardous Substances Directive.

5 FP14 lamp starting temperature 60°F (16°C)

Control Information

QUICKTRONIC POWERSENSE ballasts are compatible with a wide range of low voltage (0-10VDC) and power line fluorescent controllers available from various manufacturers.

Low Voltage Control Specs: Ballast will source up to 0.5mA for 0-10VDC control purposes. May be wired as a Class 1 or Class 2 circuit-consult Local and National Electrical Codes.

Power Line Control Specs: Specification-grade fluorescent controls are available for 120V or 277V operation of controllably analog electronic fluorescent ballasts.

Controls must be suitably rated for both the type (e.g. Fluorescent Phase-control) and size (e.g. 600W) of the connected load.

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